

REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

Claim 1 has been amended to recite that the second cylinder handles fluid that has been discharged from an impeller and from an inlet nozzle casing to an outlet nozzle casing. Basis for this is believed to be evident from Figure 1. Additionally, Claim 8 has been cancelled and the subject matter thereof has been incorporated into Claim 7. Claims 10-23 have been withdrawn from consideration.

As has previously been explained, according to a feature of the invention, in a motor frame comprising a first cylinder housing a motor stator, a second cylinder disposed around the first cylinder with a space defined between the first cylinder and the second cylinder for a handled fluid, and a seat disposed on an outer circumferential surface of the second cylinder for installing a frequency converter thereon, good heat transfer is an important consideration in order to ensure that the heat generated at the frequency converter will be effectively transferred to the handled fluid in the space between the cylinders. Accordingly, the first and second cylinders and the seat are integrally formed of one metal material in order to ensure that thermal resistance is not increased at the joints between these elements.

Claims 1 and 5-9 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. patent 5,674,056 (Yamamoto et al.) in view of U.S. patent 5,616,973 (Khazanov et al.). The Examiner there recognizes that Yamamoto et al. does not disclose that the first and second cylinder housings are integrally formed of one metal material, but argues that this would have been obvious in dependence on “the choice of manufacturer and the convenience and availability of machines and tools necessary to construct the pump.” The Examiner has also alleged that this would have been obvious in view of Khazanov et al. However, these allegations are respectfully traversed.

With respect to the allegation that “the unity or diversity of parts depends on the choice of manufacturer and the convenience and availability of the machines and tools necessary to construct the pump,” this is not the test under 35 U.S.C. § 103. 35 U.S.C. § 103 requires that there be a demonstrated motivation for those skilled in the art to modify the prior art in accordance with the claimed invention. Simply because a manufacturer could construct first and second cylinders integrally from one metal material does not comprise a *motivation* for one skilled in the art to do so. Indeed, it has been held by the Federal Circuit and recognized in the M.P.E.P. that making a component integral may be unobvious where it provides certain advantages. *Schenck v. Nortron Corp.*, 218 USPQ 698 (Fed. Cir. 1983); M.P.E.P. § 2144.04(V)(B). Here, as already explained, making the first cylinder, the second cylinder and the seat integral and from one metal material eliminates the possibility of heat transfer resistance at joints amongst these parts, and so ensures the effective transfer of heat from the frequency converter to the fluid flowing in the space between the first and second cylinders.

As for Khazanov et al., the handled fluid in this reference does not flow in a space defined between the shell member sidewall 41 (first cylinder) and the shell member 40 (second cylinder). Specifically, a handled fluid flows from the pump inlet 20 through the impeller 18 into the pump outlet 20. Coolant, and not a handled fluid, flows from the reservoir 45 into the space defined between the shell member sidewall 41 and the shell member 40 (see column 5, lines 7-27). Thus, the fluid flow in Khazanov et al. is not related to fluid flow of the motor in Yamamoto et al., and so the modification of Yamamoto et al. in view of Khazanov et al. would not have been obvious to those skilled in the art.

Moreover, in order to clarify this difference, Claim 1 has been amended to specifically recite that the space between the first and second cylinders is for the handled fluid that has been discharged from the impeller to flow therethrough from an inlet nozzle

casing to an outlet nozzle casing. As discussed above, this is not taught in Khazanov et al. Additionally, if the pump of Khazanov et al. were to be modified so as to allow the handled fluid to flow from the pump inlet 20 through the space defined between the shell member sidewall 41 and the shell member 40 into the pump outlet 22, the integral structure of the shell member sidewall 41 and the shell member 40 would no longer be present therein, and so the very basis for the application of Khazanov et al. would disappear. Accordingly, there would have been no motivation or suggestion for one having ordinary skill in the art to have combined Yamamoto et al. with Khazanov et al. in such a way as to teach the subject matter of Claim 1.

Claim 3 depends from Claim 1 and further recites that the seat for installing the frequency converter thereon is positioned between bolt seats in the motor frame as viewed from an axial end. This is shown in Figure 2 and is described at lines 17-24 of page 9 and at lines 6-16 of page 22. As is there described, due to this construction the seat 3 can have a relatively large area, which contributes to effective heat transfer and the cooling of the frequency converter.

Claim 3 was rejected under 35 U.S.C. § 103 as being obvious over Yamamoto et al. in view of Khazanov et al., and further in view of Japanese patent publication 10-080093 (Norihei). The Examiner there recognized that the prior art applied against Claim 1 does not disclose the inverter seat being located between the bolt seats, but nonetheless alleged that the “position of the seat with respect to the bolt seats is directly related to installation requirements and not to any structural relation required for enablement of the unit.”

Applicants do not fully understand what is meant by “enablement of the unit,” but note that this is not the test of obviousness under 35 U.S.C. § 103. 35 U.S.C. § 103 requires that there be a demonstrated motivation for those skilled in the art to modify the prior art in accordance with the claimed invention. Here, the failure of the prior art to teach or suggest

the claimed feature cannot be dismissed based on an alleged lack of relationship to “enablement of the unit” since, as is described in the specification, the claimed position of the seat with respect to the bolt seats permits the seat to have a large surface area, which contributes to heat transfer and the cooling of the frequency converter.

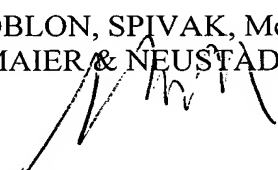
As for Norihei, this reference is not directed to a canned motor, and so could provide no motivation for arranging parts so as to improve heat transfer in Yamamoto et al. Claim 3 therefore defines over any combination of the above references.

Concerning the rejection of Claim 4 as being obvious over Yamamoto et al. in view of Khazanov et al. and Moriya et al., Moriya et al. provides no teaching for overcoming the shortcomings of Yamamoto et al. in view of Khazanov et al. with respect to Claim 1 from which Claim 4 depends, and so no combination of the above references would anticipate or render obvious the subject matter of any of the claims.

Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early Notice of Allowability.

Respectfully submitted,

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